



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kinsman et al.

Serial No.: 09/538,684

Filed: March 30, 2000

For: VARIED-THICKNESS HEAT SINK
FOR INTEGRATED CIRCUIT (IC)
PACKAGE (as amended)

Confirmation No.: 8722

Examiner: D. Graybill

Group Art Unit: 2894

Attorney Docket No.: 2269-3056.1US
(96-0803.01/US)

NOTICE OF EXPRESS MAILING

Express Mail Mailing Label Number: EV962532264US

Date of Deposit with USPS: July 1, 2009

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REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Revised Reply Brief is being filed in the format required by 37 CFR § 41.41
in the above-referenced appeal.

STATUS OF THE CLAIMS

Claims 7, 21, 23 and 32 were withdrawn and are not the subject of this appeal.

Claims 5, 13, 30 and 38 were previously canceled.

Claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31, 33-37 and 39-45 stand rejected.

No claims are allowed

The rejection of claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31, 33-37 and 39-45 is being appealed.

GROUND OF REJECTION TO BE REVIEWED

A. Whether claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 are unpatentable under 35 U.S.C. § 102(b) as being anticipated by Hernandez (U.S. Patent 4,994,936).

B. Whether claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31, 33-37 and 39-45 are unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936).

C. Whether claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 are unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Wark (U.S. Patent 5,696,031).

D. Whether claims 9 and 10 are unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Inasaka (U.S. Patent 5,136,471).

E. Whether claims 9 and 10 are unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Inasaka in view of Wark (U.S. Patent 5,696,031).

F. Whether claim 17 is unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Nakamura (JP5102338).

G. Whether claim 17 is unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Nakamura and Wark (U.S. Patent 5,696,031).

H. Whether claim 22 is unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Wark (U.S. Patent 5,696,031).

I. Whether claims 34 and 35 are unpatentable under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Inasaka (U.S. Patent 5,136,471).

J. Whether claims 34 and 35 are unpatentable under 35 U.S.C. § 103(a) in view of Hernandez (U.S. Patent 4,994,936) in view of Inasaka (U.S. Patent 5,136,471) and Wark (U.S. Patent 5,696,031).

7) ARGUMENT

ANALYSIS

I. 35 U.S.C. § 102 REJECTION

A. **Claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hernandez (U.S. Patent 4,994,936)**

(1) Legal Basis for Rejection Under 35 U.S.C. § 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

(2) Arguments for Patentability of Claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 over Hernandez Reference Under 35 U.S.C. § 102

During examination the USPTO must give claims their broadest reasonable interpretation in light of the specification. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 70 USPQ2d 1827 (Fed Cir. 2004) This means that the words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification. Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. *In re Zletz*, 893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989) *Chef Amernica Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 69 USPQ2d 1857 (Fed. Cir. 2004) The ordinary and customary meaning of a claim term is the meaning the that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective date of the patent application. *Phillips v. AWH Corp.*, 415 F.3d 1303, 74 USPQ2d 1321 (Fed. Cir. 2005). (*en banc*); *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 67 USPQ2d 1438 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.* 334 F.3d 1294, 67 USPQ2d 1132 (Fe. Cir. 2003) In the

absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art. It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the “ordinary” and the “customary” meaning of the terms in the claims. *Fergusson Beauregard/Logic Controls v. Mega Systems*, 350 F.3d 1327, 69 USPQ2D 1001 (Fed. Cir. 2003) MPEP § 2111, MPEP § 2111.01

Appellants assert that as disclosed and used in the specification, drawings, and claims of the present application the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of words “heat sink” is a device that is employed to dispose of unwanted heat in a circuit and prevent an excessive rise in temperature. Appellants have not disclosed anywhere in the specification, drawings, and claims of the present application a “decoupling capacitor” or “decoupling capacitor having a heat sink plug” as described in Hernandez or any capacitor whatsoever. Appellants assert that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the words “decoupling capacitor” is a capacitance device that filters out transients in a power distribution system. Further, Appellants assert that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the word “capacitor” is an arrangement of at least two conductors separated by a dielectric. Appellants assert that one of ordinary skill in the art would not and does not consider the broadest reasonable interpretation and ordinary simple plain meaning of the words “heat sink” in the claimed inventions to be either a “decoupling capacitor” or “capacitor” or for such devices to be interchangeable under any circumstances as such words refer to functionally different apparatus. Appellants assert there has been no showing in either the Final Rejection of the pending claims or the Examiner’s Answer that one of ordinary skill in the art would consider the broadest reasonable interpretation and ordinary simple plain meaning of the words “heat sink” to be interchangeable with either “decoupling capacitor” or “capacitor.”

Appellants assert that Hernandez only discloses either a thin, flat plate capacitor having a ceramic dielectric or a multi-plate thin, flat plate capacitor or a thin, flat plate capacitor having a heat sink plug. Appellants assert that Hernandez does not contain any disclosure whatsoever as to how any capacitor may be modified into a “heat sink” having no thin flat plates and no

ceramic dielectric. Appellants assert that the “heat sink” of independent claims 1, 24, and 25 clearly claims structure different than that of thin, flat plate “decoupling capacitors” or thin, flat plate “decoupling capacitors having a heat sink plug.”

Appellants assert that the “heat sink” disclosed in the specification, drawings, and claims independent 1, 24, and 25 of the present application the characteristics of being at least partially within the package body in close proximity to a substantial part of the enclosed portion of at least eighty percent of the area formed by the plurality of leads of the lead frame, the heat sink directly coupled to one of a signal voltage and a reference voltage, the heat sink operating respectively as a signal plane and a ground plane for the plurality of leads of the lead frame reducing lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries.

Appellants assert that nowhere in Hernandez is there any description of either the “decoupling capacitor” or “decoupling capacitor having a heat sink plug” being located in close proximity of at least eighty percent of the area formed by the plurality of leads of the lead frame as set forth in the claimed inventions. At best, Hernandez discloses that the “decoupling capacitor” or “decoupling capacitor having a heat sink plug” may be as large as necessary to minimize the inductance of the capacitor leads connecting the capacitor to the lead frame. Appellants assert that Hernandez contains no description of eliminating the capacitor of the in its entirety and substitute a “heat sink” therefore, or modify the “decoupling capacitor having a heat sink plug” to have only a “heat sink” in contact with the semiconductor chip.

Appellants again assert that the claimed inventions of presently claimed independent claims 1, 24, and 25, are not anticipated by Hernandez under 35 U.S.C. § 102 because Hernandez does not identically describe, either expressly or inherently, each and every element of the inventions in as complete detail as contained in the claims.

Appellants assert that there has been no showing in either the cited prior art, or the Final Rejection of the pending claims, or the Examiner’s Answer that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the element of the claimed inventions of a “heat sink” is either “decoupling capacitor” or “decoupling capacitor having a heat sink plug” as described in Hernandez. Appellants assert that since the present application only discloses a “heat sink” and does not disclose a “capacitor”, “a decoupling capacitor”, or a “decoupling capacitor having a heat sink plug” and since there has

been no showing the such terms are the same and the devices are interchangeable, the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the words “heat sink” cannot be “decoupling capacitor” or “decoupling capacitor having a heat sink plug.” Appellants assert that absent any showing that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill the art of the words “heat sink” is a “decoupling capacitor” or “decoupling capacitor having a heat sink plug” as described in Hernandez, the term “heat sink” is not a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug.” Further, Appellants assert that either the “decoupling capacitor” or the “decoupling capacitor having a heat sink plug” are not identical descriptions, either express or inherent, of each and every element of the inventions of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 and are not descriptions set forth in as complete detail as contained in the claims to support any rejection under 35 U.S.C. § 102. Appellants assert that describing either the “decoupling capacitor” or “decoupling capacitor having a heat sink plug” of Hernandez as the “heat sink” element of the claimed inventions of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 is overly broad, is unreasonable, is contrary to the ordinary simple plain meaning of such element of the claimed inventions, is contrary to the description of the claimed inventions as described in Appellants’ application, and is impermissible under the criteria of any rejection under 35 U.S.C. § 102 to support any rejection of the claims.

Appellants assert that Hernandez clearly does not consider the decoupling capacitor to be a heat sink as Hernandez specifically discloses the modification of the first embodiment of the invention of a “decoupling capacitor” to include a heat sink plug as a second embodiment of the invention to provide better heat transfer from the semiconductor chip and the decoupling capacitor itself by having the heat sink plug attached to the semiconductor chip and capacitor. Also, Hernandez specifically discloses that the first embodiment of the invention of a “decoupling capacitor” having no “heat sink plug” is not attached to the semiconductor chip.

Appellants further assert that the Appellants’ disclosure cannot be used to support any rejection of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 under 35 U.S.C. § 102 to support any inherency argument that either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” when connected to a lead frame meets the claim

limitations of “reducing lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries.” Appellants assert that the element of the claimed invention of a “heat sink . . . reducing lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries” is not an inherency of either the “decoupling capacitor” or “decoupling capacitor having a heat sink plug” because Hernandez does not have the same elements of the claimed inventions of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 and because such an element of the claimed invention does not flow undeniably and irrefutable flow from the express disclosure of Hernandez. *Hughes Aircraft Co. v. U.S.*, 8 USPQ 1580 (Fed. Cir. 1988). Appellants assert that inherency may not be established by probabilities or possibilities. Appellants assert that the mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Roberson*, 169 F.3d 743, 49 USPQ2d 1949 (Fed. Cir. 1999). Appellant assert that without the “decoupling capacitor” or “decoupling capacitor having a heat sink plug” being specifically designed to be a “heat sink” and not a capacitor for a specific semiconductor chip and a specific lead frame to reduce lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries , it is speculative to assert that the “decoupling capacitor” or “decoupling capacitor having a heat sink plug” describes the claim limitation calling for a “heat sink . . . reducing lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries.”

Appellants assert that since Hernandez does not have the same elements in the same detail of the claimed inventions as set forth in claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 and since such elements of the claimed invention does not flow undeniably and irrefutably flow from the express disclosure of Hernandez, such prior art cannot and does not anticipate such claimed inventions under 35 U.S.C. § 102.

II. 35 U.S.C. § 103 REJECTION

A. **Claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31-37 and 39-45 stand rejected under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936).**

(1) Legal Basis for Rejection Under 35 U.S.C. § 103

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations.** *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, there must be “a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). To establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

(2) Arguments for Patentability of Claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31-37, and 39-45 Over the Hernandez Reference Under 35 U.S.C. § 103

Hernandez cannot establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed invention because Hernandez does not teach or suggest all the claim limitations regarding the elements of the claimed inventions of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45.

Appellants assert that as disclosed and used in the specification, drawings, and claims of the present application the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of words “heat sink” is a device that is employed to dispose of unwanted heat in a circuit and prevent an excessive rise in temperature. Appellants have not disclosed anywhere in the specification, drawings, and claims of the present application a

“decoupling capacitor” or “decoupling capacitor having a heat sink plug” as described in Hernandez or any capacitor whatsoever. Appellants assert that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the words “decoupling capacitor” is a capacitance device that filters out transients in a power distribution system. Further, Appellants assert that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the word “capacitor” is an arrangement of at least two conductors separated by a dielectric. Appellants assert that one of ordinary skill in the art would not and does not consider the broadest reasonable interpretation and ordinary simple plain meaning of the words “heat sink” in the claimed inventions to be either a “decoupling capacitor” or “capacitor” or for such devices to be interchangeable under any circumstances as such words refer to functionally different apparatus. Appellants assert there has been no showing in either the Final Rejection of the pending claims or the Examiner’s Answer that one of ordinary skill in the art would consider the broadest reasonable interpretation and ordinary simple plain meaning of the words “heat sink” to be interchangeable with either “decoupling capacitor” or “capacitor.”

Appellants assert that Hernandez only discloses either a thin, flat plate capacitor having a ceramic dielectric or a multi-plate thin, flat plate capacitor or a thin, flat plate capacitor having a heat sink plug. Appellants assert that Hernandez does not contain any disclosure whatsoever as to how any capacitor may be modified into a “heat sink” having no thin flat plates and no ceramic dielectric. Appellants assert that the “heat sink” of independent claims 1, 24, and 25 clearly claims structure different than that of thin, flat plate “decoupling capacitors” or thin, flat plate “decoupling capacitors having a heat sink plug.”

In the Examiner’s Answer, it is stated that “. . . Hernandez does not appear to explicitly disclose the process of using the package by reducing lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries” and that “[n]otwithstanding, Hernandez discloses that lead inductance is a result-effect variable”, “[t]herefore, it would have been obvious to try variations of the inductance result effective variable, including the claimed variations because ‘a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp.’”

Appellants assert that such statements assume that either a “coupling capacitor” or a “decoupling capacitor having a heat sink plug” are descriptions of a “heat sink” to one of ordinary skill in the art. Appellants assert that while one of ordinary skill in the art may find it within his or her technical grasp when pursuing known options to try variations of the inductance result effective variable for either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug”, there has been no showing whatsoever of any cited prior art in the application, more specifically none in Hernandez, to modify either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” to be a “heat sink” having no thin, flat plates and no ceramic dielectric as set forth in the claims. More specifically, there has been no showing that one of ordinary skill in the art may find it within his or her technical grasp while pursuing known options to try variations of the inductance result effective variable for converting either a “decoupling capacitor” or a “decoupling capacitor having a heat sink” to merely a “heat sink” having no thin, flat plates and no ceramic dielectric having any such characteristics based on any cited prior art, more specifically Hernandez. Appellants point out that the Hernandez reference is directed to either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug”, not merely a “heat sink.” Appellants assert that there has been no showing whatsoever one of ordinary skill in the art having skills for designing a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” are to be used to modify either of such to convert them to a “heat sink” having no thin, flat plates and no ceramic dielectric for reducing lead inductance of the plurality of leads of the lead frame at least about 0.90 nanohenries in any package. Appellants assert that there has been no showing as to the skill level of one of ordinary skill in the art as to the technical grasp in any of the cited prior art in the application for pursuing any options to try variations regarding redesigning and modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” to merely a “heat sink” having no thin, flat plates and no ceramic dielectric. Appellants assert that any “. . . obvious to try . . .” argument regarding the inventions of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 are unpatentable under 35 U.S.C. § 103 based on Hernandez is purely conjectural as Hernandez is directed to either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug”, not the claimed inventions of a “heat sink” in various configurations. Nor has there been any showing as to why one of ordinary skill in the art would wish to modify either a “decoupling

capacitor” or a “decoupling capacitor having a heat sink plug” to be merely a “heat sink” having no thin, flat plates and no ceramic dielectric in various configurations such as that set forth in claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45. It has only been asserted that such could be undertaken for some unknown reason.

Accordingly, Appellants assert that claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 are allowable.

III. 35 U.S.C. § 103 REJECTION

A. **Claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31-37 and 39-45 stand rejected under 35 U.S.C. § 103(a) over Hernandez (U.S. Patent 4,994,936) in view of Wark (U.S. Patent 5,696,031).**

(1) Legal Basis for Rejection Under 35 U.S.C. § 103

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, there must be “a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). To establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

(2) Arguments for Patentability of Claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31-37, and 39-45 Over Hernandez in View of Wark Under 35 U.S.C. § 103

Hernandez cannot establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed invention because Hernandez does not teach or suggest all the claim limitations regarding the elements of the claimed inventions of claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45.

Appellants assert that as disclosed and used in the specification, drawings, and claims of the present application the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of words “heat sink” is a device that is employed to dispose of unwanted heat in a circuit and prevent an excessive rise in temperature. Appellants have not disclosed anywhere in the specification, drawings, and claims of the present application a “decoupling capacitor” or “decoupling capacitor having a heat sink plug” as described in Hernandez or any capacitor whatsoever. Appellants assert that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the words “decoupling capacitor” is a capacitance device that filters out transients in a power distribution system. Further, Appellants assert that the broadest reasonable interpretation and ordinary simple plain meaning to one of ordinary skill in the art of the word “capacitor” is an arrangement of at least two conductors separated by a dielectric. Appellants assert that one of ordinary skill in the art would not and does not consider the broadest reasonable interpretation and ordinary simple plain meaning of the words “heat sink” in the claimed inventions to be either a “decoupling capacitor” or “capacitor” or for such devices to be interchangeable under any circumstances as such words refer to functionally different apparatus. Appellants assert there has been no showing in either the Final Rejection of the pending claims or the Examiner’s Answer that one of ordinary skill in the art would consider the broadest reasonable interpretation and ordinary simple plain meaning of the words “heat sink” to be interchangeable with either “decoupling capacitor” or “capacitor.”

Appellants assert that Hernandez only discloses either a thin, flat plate capacitor having a ceramic dielectric or a multi-plate thin, flat plate capacitor or a thin, flat plate capacitor having a heat sink plug. Appellants assert that Hernandez does not contain any disclosure whatsoever as

to how any capacitor may be modified into a “heat sink” having no thin flat plates and no ceramic dielectric. Appellants assert that the “heat sink” of independent claims 1, 24, and 25 clearly claims structure different than that of thin, flat plate “decoupling capacitors” or thin, flat plate “decoupling capacitors having a heat sink plug.”

In the Examiner’s Answer, it is stated that “. . . Hernandez does not appear to literally disclose a processor”, that “Hernandez does not appear to explicitly disclose where the heat sink is coupled to a printed circuit board outside the package body thereby coupled to one a a signal voltage and a reference voltage”, that “Hernandez does not appear to explicitly disclosure wherein the surface of the first of the first portion of the heat sink includes a recess in which the die-attach area is located”, that “Hernandez does not appear to explicitly disclose an electronic system having an input device, an output device, a memory device, and a process decoupled to the input, output, and memory devices, at least one of the input, output, memory and processor device”, and that “Hernandez does not appear to explicitly disclose wherein the heat sink is coupled to a printed circuit board outside the package body and is thereby coupled to one of a signal voltage and reference voltage.” Appellants assert that in any instance there is no reference in Hernandez to anything but either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” which may be modified or converted by one of ordinary skill in the art to be a “heat sink” having no thin, flat plates and no ceramic dielectric. Appellants assert that the Hernandez reference only refers to a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” which are clearly not a “heat sink” as set forth in the claims.

Appellants assert that that modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of Wark, Inasaka, and Nakamura in any combination of cited prior art is not combining prior art elements according to known methods to yield predictable results because there has been no showing that a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” are the same as a “heat sink” to one of ordinary skill in the art or either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” can be easily modified to be merely a “heat sink” having the claim limitations of the claimed inventions . Appellants assert that modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of either Wark, Inasaka, and Nakamura in any combination of cited prior art are not simple

substitutions of one known element for another to obtain predictable results as there has been no such showing, but only assertions and conjecture as to such without any showing that the cited prior art supports such substitutions. Appellants assert that modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of either Wark, Inasaka, and Nakamura in any combination of cited prior art is not the use of a known technique to improve similar devices in the same way as none of such prior art are merely a “heat sink”, but rather only assertions and conjecture concerning such without any support in the cited prior art. Appellants assert that that modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of either Wark, Inasaka, and Nakamura in any combination of cited prior art is not applying a known technique to a known device, method or product ready for improvement to yield predictable results as none of such prior art are merely a “heat sink”, but are always modifications to either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” which are not merely “heat sinks” having no thin, plates and no ceramic dielectric. Appellants assert that that modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of either Wark, Inasaka, and Nakamura in any combination of cited prior art is not choosing from a finite number of identified predictable solutions, with a reasonable expectation of success as none of such prior art are merely a “heat sink” having no thin, flat plates and no ceramic dielectric, but are always modifications to either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug.” Appellants assert that that modifying either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of either Wark, Inasaka, and Nakamura in any combination of cited prior art is not applying known work in one field of endeavor which prompts variations of it for use in either the same field or a different field based on design incentive or other market forces when the variations are predictable to one of ordinary skill in the art as none of such prior art is merely a “heat sink” having no thin, flat plates and no ceramic dielectric, as there has been no showing of that the fields of designing and modifying capacitors to be merely “heat sinks” are the same, and as there has been no showing that any variations in the design of “decoupling capacitors” or “decoupling capacitors having a heat sink plug” are the same as that of a merely a “heat sink” having no thin, flat plates and no ceramic dielectric. Appellants assert that that modifying either

a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug” of Hernandez through the use of either Wark, Inasaka, and Nakamura in any combination of cited prior art through some teaching, suggestion, or motivation in such prior art would have led one of ordinary skill to modify Hernandez or to combine such prior art reference teachings to arrive at the claimed invention has not been shown whatsoever as no such teachings, suggestions, or motivations, are present in the prior art, but merely based on conjecture.

Appellants point out that Hernandez is directed to either a “decoupling capacitor” or a “decoupling capacitor having a heat sink plug”, not the claimed invention of a “heat sink” in various configurations with any other elements of the claimed inventions in any combination with any of the cited prior art references.

Accordingly, Appellants assert that claims 1-4, 6, 8, 11, 12, 14-16, 18-20, 24-29, 31, 33, 36, 37 and 39-45 are allowable.

CONCLUSION

Appellants respectfully submit that claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31, 33-37 and 39-45 are allowable. Appellants respectfully request that the rejection of claims 1-4, 6, 8-12, 14-20, 22, 24-29, 31, 33-37 and 39-45 under 35 U.S.C. §102(b) and 35 U.S.C. § 103(a) be reversed.

Respectfully submitted,



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Date: July 1, 2009
JRD/ps:lmh
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